

1 **REMARKS**

2 Applicant respectfully requests reconsideration and allowance of the  
3 subject application. Claims 1-81 are pending.  
4

5 **35 U.S.C. §112**

6 **Claims 8-11** are rejected under 35 U.S.C. §112, second paragraph, as being  
7 indefinite for failing to particularly point out and distinctly claim the subject  
8 matter in which applicant regards as the invention. Applicant respectfully  
9 traverses the rejection.

10 The Office states:

11  
12 Regarding claim 8, lines 10-11, the recited limitation of “wherein the  
13 aspect ratio of the first image differs from the aspect ratio of the base  
14 layer” is confusing. How can the aspect ratio of the image derived  
15 from its own source (i.e. the base layer) have different aspect ratio?

16 Claim 8 states, in part, “extracting a first image from the base layer,  
17 wherein the aspect ratio of the first image differs from the aspect ratio of the base  
18 layer.” One way in which an image can be extracted from a base layer such that  
19 the extracted image and the base layer have different aspect ratios is by extracting  
20 a first image that comprises only a portion of the base layer. For example, if a  
21 base layer is 1024 pixels wide and 768 pixels high, it has an aspect ratio of 4:3. If  
22 an image is extracted from the base layer such that the image is 1024 pixels wide  
23 and only 576 pixels high, then it has an aspect ratio of 16:9. Any number of  
24 techniques may be used to extract the first image from the base layer. One  
25 technique is referred to as an “anamorphic squeeze” procedure that compresses the

1 image, in this example, vertically to cover only 576 pixels where the base layer  
2 covers 768 pixels. Another technique for extracting the first image is to extract a  
3 cropped portion of the base layer, so that a portion of the base layer is not included  
4 in the extracted image. In the given example, the excluded portion of the base  
5 layer is 1024 pixels wide and 192 pixels (768 pixels - 576 pixels) high.

6 Accordingly, a first image extracted from a base layer such that the first  
7 image and the base layer have different aspect ratios, and thus the rejection of  
8 claims 8-11 should be withdrawn.

9  
10 **35 U.S.C. §102**

11 **Claims 1-7, 12-19, 21-30, 33, 36-40, 42-54, and 70-81** are rejected under  
12 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,510,787 to Koster  
13 (hereinafter, "Koster"). Applicant respectfully traverses the rejection.

14 The Applicant's application describes encoding a source image using a  
15 layered coding technique that generates multiple layers with different aspect  
16 ratios. A base layer has one aspect ratio and represents a low-resolution portion of  
17 the source image and an enhancement layer has a different aspect ratio and  
18 represents a high-resolution portion of the source image. The base layer and  
19 enhancement layer, when taken together, represent the source image.

20 Applicant's application also describes decoding the encoded layers to  
21 generate displayable images. For example, the base layer may have an aspect ratio  
22 of 4:3 and when decoded, may be suitable for display by a conventional (low-  
23 resolution) television. The enhancement layer may have, for example, an aspect  
24 ratio of 16:9. The enhancement layer represents a high-resolution portion of the  
25 source image. When decoded, the enhancement layer may be combined with the

1 decoded low-resolution base layer to create an image that is suitable for display by  
2 a high-definition television.

3 **Claim 1** recites:

4 A method of encoding a source image, the method comprising:  
5 generating a base layer representing a low-resolution portion of the  
6 source image, wherein the base layer has an associated aspect ratio;  
7 and  
8 generating an enhancement layer representing a high-resolution  
9 portion of the source image, wherein the enhancement layer has an  
10 associated aspect ratio, and wherein the aspect ratio associated with  
11 the enhancement layer differs from the aspect ratio associated with  
12 the base layer.

13 Koster does not disclose this method. Koster describes a two-layer encoder  
14 system for encoding a digital signal, resulting in a high-resolution HDTV signal or  
15 a low-resolution signal that is appropriate for display using a conventional  
16 television. The layer of the encoder that encodes the low-resolution signal also  
17 receives user input (e.g., from a joystick) to determine which portion of the input  
18 signal is to be encoded in low-resolution. The efficiency of traditional encoding  
19 processes is enhanced in that the described system encodes the difference between  
20 subsequent images within a signal.

21 Nowhere in Koster is there any discussion of “generating a base layer...and  
22 generating an enhancement layer...wherein the aspect ratio associated with the  
23 enhancement layer differs from the aspect ratio associated with the base layer”.

24 The Office states that Koster discloses “generating a base layer representing  
25 a low-resolution portion of the source image wherein the base layer has an  
associated aspect ratio, and a high-resolution portion of the source image wherein  
the enhancement layer has an associated aspect ratio” in Figure 1 and column 3,

1 lines 9+. While Koster discusses layered coding, it does not disclose that the base  
2 and enhancement layers are generated such that they have differing aspect ratios.

3 Moreover, the Office does not address this feature of the claims. Nowhere  
4 in the Action does the Office state how Koster describes generating two layers  
5 with different aspect ratios from a source image. For these reasons, claim 1 is  
6 allowable over Koster.

7 If the Office continues to hold that claim 1 is rejected under 35 U.S.C. §102,  
8 Applicant respectfully requests that the Office point out specific language in the  
9 reference that describes the generation of a base layer and the generation of an  
10 enhancement layer wherein the aspect ratio associated with the enhancement layer  
11 differs from the aspect ratio associated with the base layer, as recited in claim 1.

12  
13 **Claims 2-7, 12-19, and 76-77** are allowable based on their dependence on  
14 claim 1. In addition, these claims recite features that, when combined with those  
15 of claim 1, define methods not disclosed by Koster.

16 For example, dependent **claim 7** recites “generating the enhancement layer  
17 includes subtracting a portion of the base layer from a corresponding portion of  
18 the source image”. Koster does not describe the claimed feature.

19 Koster describes enhancing the efficiency of traditional encoding processes  
20 by encoding the difference between subsequent images within a signal. Koster is  
21 cited as disclosing subtracting a portion of the base layer from a corresponding  
22 portion of the source image in column 9 lines 30+, with reference to unit 16 of fig.

23 1a. Koster, column 9, lines 29-35 states,

24  
25 If the encoder means are adjusted with  $x=1$ , the first group of pels of  
the preceding (first) picture is subtracted from the first group of pels

1 of the (second) picture to be coded by means of subtraction circuit  
2 16. As a result, a section of the stored preceding, high-resolution  
3 picture is used in order to predict a section of the new high-  
4 resolution picture to be coded.

5 Specifically, Koster discloses subtracting one high-resolution image from  
6 another high-resolution image, and coding the difference. Koster does not  
7 disclose generating a high-resolution portion of a source image by subtracting a  
8 low-resolution portion from the source image, as claimed. Accordingly, claim 7 is  
9 allowable for the reasons stated and by virtue of its dependence on allowable  
10 claim 1.

11 Dependent **claim 12** recites, "generating an enhancement layer includes  
12 high-pass filtering the source image". Koster does not disclose high-pass filtering  
13 the source image to generate an enhancement layer.

14 If one were to compare the high-resolution signal generated by the Koster  
15 system with the claimed enhancement layer, Koster does not describe filtering of  
16 any type with regards to generating the high-resolution signal. Koster describes a  
17 "reduction means" that is described as including a filtering means and a  
18 subsampling means. The described reduction means is shown leading to the input  
19 of the second layer of the encoding system, which generates a low-resolution  
20 signal. Koster does not describe any type of filtering in generating a high-  
21 resolution signal.

22 The Office states that Koster discloses a filtering means in column 8, lines  
23 21+. The Office states that, "using high-pass filter for generating the enhancement  
24 layer is an inherent feature of the filtering means".  
25

1 Koster (column 7, lines 6-9) states, "The encoder shown in FIG. 1 is made  
2 up of two layers. The first layer (10-21) codes signals on the basis of the highest  
3 resolution and the second layer (30-41) codes signals on the basis of the lowest  
4 resolution." Reduction means 2 (which is the cited "filtering" means) is shown as  
5 providing input to the second layer, which codes the low-resolution signal.  
6 Furthermore, there is nothing in Koster that defines the described filter as a  
7 high-pass filter, as claimed. Accordingly, claim 12 is allowable.

8  
9 Dependent **claim 13** recites, "combining the base layer and the  
10 enhancement layer into a single transport stream". Koster does not disclose the  
11 recited claim limitations.

12 The Office states that this combining is shown in Koster in unit 6 of Fig  
13 1A. Cited unit 6 is a multiplexer that receives several inputs from the two layers  
14 of the encoder, but the Office has not cited where Koster describes combining a  
15 base layer and enhancement layer as described in claim 1 into a single transport  
16 stream as recited in claim 13. Accordingly, claim 13 is allowable.

17  
18 Dependent **claim 16** recites, "further including transmitting the base layer  
19 to an image decoding system using a first transmission medium and transmitting  
20 the enhancement layer to the image decoding system using a second transmission  
21 medium". Koster does not disclose these additional limitations to the method  
22 recited in claim 1.

23 Koster shows a two-layer encoding system that sends input to a multiplexer  
24 that then sends input to a decoding system. Koster does not disclose transmitting a  
25 base layer using a first transmission medium and transmitting an enhancement

1 layer using a second transmission medium, as claimed. Accordingly, and by  
2 virtue of dependence on claim 1, claim 16 is allowable.

3  
4 Dependent **claim 17** recites, "further including transmitting the base layer  
5 to an image decoding system using a first transmission format and transmitting the  
6 enhancement layer to the image decoding system using a second transmission  
7 format". Koster does not disclose transmission using multiple transmission  
8 formats.

9 The Office states, "Regarding claims 16, 17, and 39, limitations claimed  
10 transmitting the base layer to an image decoding system using a first transmission  
11 medium (reads on fig. 1a, and fig. 2) and transmitting the enhancement layer to the  
12 image decoding system using a second transmission medium (reads on fig. 1b, and  
13 fig. 2)."

14 The Office does not point to anything in Koster that describes transmitting  
15 a base layer using a first transmission "format" and transmitting an enhancement  
16 layer using a second transmission "format", as claimed. Accordingly, and by  
17 virtue of dependence on claim 1, claim 17 is allowable.

1       **Claim 21** recites:

2       A method comprising:

3       decoding a first layer representing a low-resolution portion of an  
4       encoded image, wherein the first layer has an associated aspect ratio;  
5       and

6       decoding a second layer representing a high-resolution portion of the  
7       encoded image, wherein the second layer has an associated aspect  
8       ratio, and wherein the aspect ratio associated with the second layer  
9       differs from the aspect ratio associated with the first layer.

10       Koster does not disclose this method.

11       Koster describes a decoder for decoding a digital signal coded by the  
12       described encoder.

13       The Office sites Koster, figure 2 (unit 90) and the abstract, as describing the  
14       decoding process claimed in claim 21. As described with reference to claim 1,  
15       Koster does not specify that the low-resolution signal that can be generated by the  
16       encoder has a different aspect ratio than the high-resolution signal that can be  
17       generated. Furthermore, there is no language in the abstract, nor is it clear in  
18       figure 2 that the cited decoder means (unit 90 of figure 2) decodes a first layer  
19       with an associated aspect ratio and decodes a second layer with a “different”  
20       aspect ratio, as claimed. Accordingly, claim 21 is allowable.

21       **Claims 22-30, 33, and 78-79** are allowable by virtue of their dependence  
22       on claim 21. In addition, these claims recite features that, when combined with  
23       those of claim 21, define methods not disclosed by Koster.

24       For example, dependent **claim 28** recites, “further including  
25       communicating the first layer to a low-resolution television”.

      Koster describes encoding and decoding a digital signal. Koster does not  
      describe communicating data to a low-resolution television.



1 The Office states that Koster “discloses process of communicating input  
2 signal going through the process of encoding and decoding and transport to the  
3 display device or television” in figures 1 and 2 and in column 2, lines 60+.

4 Figures 1 and 2 show a two-level encoder, a multiplexer, and a decoder, but  
5 do not show communication to a low-resolution television. Column 2, lines 60+  
6 states:

7 The object of the invention is to provide a system of the type  
8 mentioned in the preamble which codes and decodes more  
efficiently in the case of the given, different tv standards.

9 For this purpose, the system according to the invention has the  
10 characteristic that the encoder is provided with encoder means,  
11 coupled to the input, for deriving a position code from the digital  
12 signal, for comparing the position code with at least one adjustable  
code, and for decoupling, subject to a comparison result, the second  
encoder feedback means and the first encoder feedback means.”

13 This cited portion of Koster describes encoding and decoding a digital  
14 signal, but does not describe communicating a first layer to a low-resolution  
15 television, as claimed. Accordingly, and by virtue of dependence on claim 21,  
16 claim 28 is allowable.

17  
18 Dependent **claim 33** recites, “A method as recited in claim 21 wherein the  
19 first layer is received at a first time and the second layer is received at a second  
20 time.” Koster does not disclose this recited limitation.

21 The Office states that, “first layer received at a first time and second layer  
22 received at a second time (reads on Fig. 1A, time base multiplexer 6).”

23 Unit 6 of Fig. 1A is labeled “Multiplexer”, and there is no indication, either  
24 on the figure or in the text, that the multiplexer is a time-based multiplexer.  
25

1 Accordingly, and by virtue of its dependence on claim 21, claim 33 is therefore  
2 allowable.

3  
4 **Claim 36** is allowable for the same reasons stated with reference to claim 1.  
5

6 **Claims 37-40 and 80** are allowable by virtue of dependence on claim 36.  
7 In addition, these claims recite factors that, when combined with those of claim  
8 36, define methods not disclosed by Koster.

9 For example, dependent **claim 39** is also allowable for the same reasons  
10 stated with reference to claim 16.

11 Dependent **claim 40** recites, “the base layer is transmitted using a first  
12 transmission format and the enhancement layer is transmitted using a second  
13 transmission format.” Koster does not disclose transmitting two layers using two  
14 different transmission formats.

15 The Office states, “Regarding claim 40, base layer is transmitted using a  
16 first transmission format (i.e. aspect ratio, col. 3, lines 14+) and the enhancement  
17 layer is transmitted using a second transmission format (i.e. aspect ratio, col. 3,  
18 lines 9+).”

19 Applicant respectfully disagrees with the Office’s equating “transmission  
20 format” and “aspect ratio”. Claim 36 specifies that the base layer and the  
21 enhancement layer have different aspect ratios. Claim 40, further specifies that the  
22 two layers are transmitted using different transmission formats. The Office has  
23 not shown that Koster describes a base layer and an enhancement layer with  
24 different aspect ratios. Further, the Office has not shown that Koster describes  
25

1 transmission of two layers with different aspect ratios using different transmission  
2 formats, as claimed. Accordingly, claim 40 is allowable.

3  
4 **Claim 42** is allowable for the same reasons stated with reference to claim 1.

5  
6 **Claims 43-49** are allowable by virtue of dependence on claim 42. In  
7 addition, these claims recite factors that, when combined with those of claim 42,  
8 define apparatus not disclosed by Koster.

9 For example, dependent **claim 44** is also allowable for the same reasons  
10 stated with reference to claim 12.

11 Dependent **claim 45** recites, "...the enhancement layer generator includes  
12 an image extractor to extract a portion of the base layer and a differencing module  
13 to subtract the extracted portion of the base layer from a corresponding portion of  
14 the image." Koster does not disclose the claimed image extractor and differencing  
15 module.

16 The Office cites Fig. 1A, subtraction circuit 16 and first data processing  
17 means unit 10, as describing the claimed enhancement layer generator. Koster  
18 describes the subtraction circuit 16 as being used to subtract a second image from  
19 a first image where the first and second images are successive images in a digital  
20 signal. Koster does not describe using the subtraction circuit 16 to subtract an  
21 extracted portion of a base layer from a corresponding portion of an image in  
22 generating an enhancement layer, as claimed. Accordingly, claim 45 is allowable.

1       **Claim 50** is allowable for the same reasons stated with reference to  
2 claim 21.

3  
4       **Claims 51- 54 and 81** are allowable by virtue of dependence on claim 50.  
5 In addition, these claims recite features that, when combined with those of claim  
6 50, define an apparatus not disclosed by Koster.

7       For example, dependent **claim 54** recites, "...further including a receiver  
8 coupled to the base layer decoder and the enhancement layer decoder..." Koster  
9 does not disclose such a receiver.

10       The Office states that the claimed receiver "reads on Fig. 2, receiver  
11 decoder 90". Unit 90 of Fig. 2 is labeled as "decoder means". There is no  
12 suggestion that the "decoder means" is a "receiver decoder". Furthermore, the  
13 claimed receiver is "coupled to" the base layer decoder and the enhancement layer  
14 decoder, which implies that the receiver is not in and of itself the "decoder  
15 means". Accordingly, claim 54 is allowable.

16  
17       **Claim 70** is allowable for the same reasons stated with reference to claim 1.

18  
19       **Claims 71 and 72** are allowable by virtue of dependence on claim 70.

20  
21       **Claim 73** is allowable for the same reasons stated with reference to  
22 claim 21.

23  
24       **Claims 74 and 75** are allowable by virtue of dependence on claim 73.  
25

1        **35 U.S.C. §103**

2        **Claim 32** is rejected under 35 U.S.C. §103 as being unpatentable over U.S.  
3 Patent No. 5,190,787 to Koster (hereinafter, “Koster”) in view of US Patent  
4 Application No. 2002/0021412 to Goodhill et al. (hereinafter, “Goodhill”).  
5 Applicant respectfully traverses the rejection.

6        Koster describes a two-layer encoder system for encoding a digital signal,  
7 resulting in a high-resolution HDTV signal or a low-resolution signal that is  
8 appropriate for display using a conventional television. The layer of the encoder  
9 that encodes the low-resolution signal also receives user input (e.g., from a  
10 joystick) to determine which portion of the input signal is to be encoded in low  
11 resolution.

12        Goodhill “relates to motion picture film and, more particularly, a method of  
13 making motion picture release-print film that provides an enhanced projected  
14 image and lower film consumption.” (Goodhill, paragraph 0001.) Goodhill  
15 describes an anamorphic process to squeeze (or stretch) a projected image to fit  
16 the available space between film perforations.

17        **Claim 32** is dependent on claim 21, which recites, “...decoding a first layer  
18 representing a low-resolution portion of an encoded image...; and decoding a  
19 second layer representing a high-resolution portion of the encoded image...”

20        **Claim 32** recites “...further including correcting an anamorphic squeeze in  
21 the first layer”.

22        Goodhill describes applying an image to film using a technique to  
23 anamorphically squeeze the image. Combining the teachings of Goodhill and  
24 Koster, as suggested, would not result in the claimed method that includes  
25 “correcting” an anamorphic squeeze. Goodhill proposes anamorphically

1 squeezing an image to enhance a projected image and to lower film consumption.  
2 Goodhill does not teach or suggest that there is any need to “correct” an  
3 anamorphic squeeze, as is claimed. Accordingly, claim 32 is allowable.  
4

5 **Claims 20, 31, 34-35, 41, and 55-69** are rejected under 35 U.S.C. §103 as  
6 being unpatentable over U.S. Patent No. 5,190,787 to Koster (hereinafter,  
7 “Koster”). Applicant respectfully traverses the rejections.  
8

9 **Regarding claims 20, 35, 41, 55-58, 59, 61, 62, and 65**, these claims are  
10 written in a format that defines a computer or memory that enables performance of  
11 the steps claimed (or claimed in the base claims). The format of claiming a  
12 computer-readable medium with instructions to perform certain steps or a  
13 computer programmed to perform the steps was approved in *In re Beauregard*, 35  
14 USPQ2d 1383 (Fed. Cir. 1995).  
15

16 **Claim 31** recites, “...the first layer is decoded from a physical medium and  
17 the second layer is decoded from a received data stream.”

18 **Claim 34** recites, “...the first layer is received from a first media and the  
19 second layer is received from a second media.”

20 Koster describes decoding a digital signal received from a single  
21 multiplexer. Koster does not teach or suggest decoding multiple layers received  
22 from multiple media. Claims 31 and 34 are therefore allowable.  
23  
24  
25

**Claim 60** recites, “...generating a second layer includes comparing a portion of the first layer with a corresponding portion of the source image.”

The Office contends that this limitation is suggested in Koster, column 6, lines 10+. Koster describes “comparing a position code with at least one adjustable code”, but does not teach or suggest comparing a first layer with a corresponding portion of the source image to generate a second layer. Accordingly, and by virtue of dependence on claim 55, claim 60 is allowable.

**Claims 63 and 64** are allowable by virtue of dependence on claim 55.

## Conclusion

All pending claims 1-81 are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the subject application. If any issues remain that prevent issuance of this application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

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